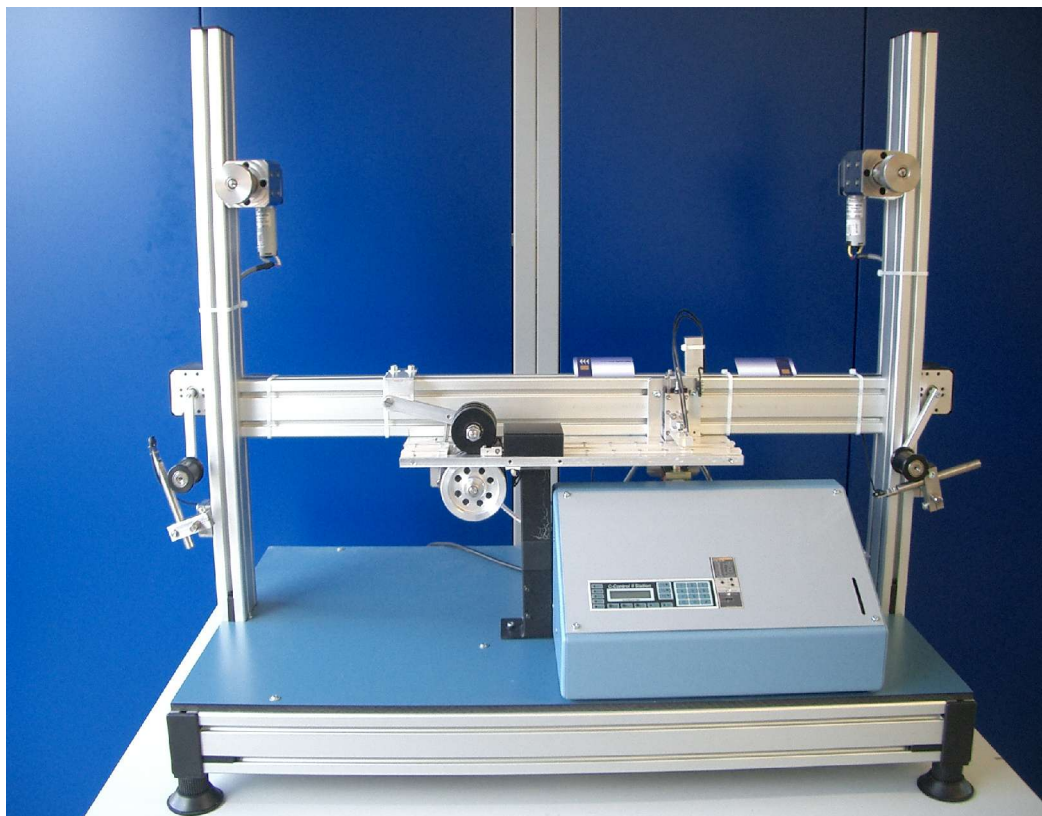


Module Counting Machine

with Test and Programming Options



1. Preface

The Module Counting Machine (MCM) is basically designed for counting SmartCard modules of any type in double track 35mm Jedec tape. It may also be used for counting RFID modules in MCC2 lead frame tape. In addition any other materials based on the same tape format may be counted. For counting, the MCM uses the transport holes of the tape/lead frame and the applied punch holes in the bad modules.

The MCM is a table top system with small footprint. It is easy to operate and uses SmartCards for product specific data and parameter storage. So, if once a product card is generated, operating the machine on this product is simply applying the reel, feeding in the tape, inserting the SmartCard and pressing the START button.

2. Features

- Counts all SmartCard modules in 35mm double track Jedec tape.
- Save and failure free counting
- Throughput is 10.000 modules / hour
- Different counting modes
 - count until end of tape
 - downcount a given number of modules
- Flexible microcontroller control system with touch display for user interaction
- Counts other modules in 35mm jedec tape or similiar lead frame or plastic tape

3. Short Description

The machine base is build from a heavy aluminum profiled rail system. It holds and combines all of the functional units of the MCM. The machine operates module tapes from left towards right.

On the left side the input reel handler unwinds the module tape and feeds it to the tape transport module, located in the center of the machine.

The tape transport module moves the module tape through the machine. It uses a stepping motor unit for transporting with flexible and programmable transport steps for any kind of modules. After each tranport step, the MCM checks its bad module detection sensors for defect modules and counts good and bad modules as recognised.

The module tape moves also through the transport rail where optional units can be mounted.

On the right side the module tape will be wind up on standard reels. The MCM stops after reaching either the end of the module tape or the good module preset counter if one is defined.

4. Options

4.1 Contacting units for contacting SmartCard and/or RFID-Modules

- pure contacting head to allow special applications by the customer
- contacting head with SmartCard reader and software for simple test electrical test, based on ATR
- customer specific software development for any type of personalisation and initialisation of SmartCard modules
- pure contacting head for RFID modules in MCC2 lead frame tape
- contacting head for RFID modules with RFID reader and software for simple electrical test, based on GetId function
- customer specific software development for any type of personalisation and initialisation of RFID modules
- SmartCard and RFID interfaces may be combined for dual interface modules

4.2 Stamping unit for punching bad module marking holes in SmartCard or RFID modules.

4.3 Optical inspection of modules for defects like scratches.

4.3 Customer specific options will be developed on demand.

5. Technical Data

Dimensions	1000 x 600 x 700mm
Weight	48Kg
Power Supply	230V, 50Hz
Throughput	10000 modules/hour (M 2.2, counting only)

6. Remarks

The title picture shows the revision 2 of the module counting machine with additional fully automatic optical inspection of the module tape back side and with an optional RFID module contacting unit. In addition to the standard controlling system the control box contains an embedded industrial PC for testing and programming RFID modules.